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10/552,097	02/21/2006	Leung Choi Chow	2733.35WOUS	4192

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EXAMINER
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MICHENER, JOSHUA J

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/552,097  
Filing Date: February 21, 2006  
Appellant(s): CHOW ET AL.

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Paul C. Onderick  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 3/1/2011 appealing from the Office action mailed 8/23/2010.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims: 15-18,20,23,27-29,33-35 are rejected.

Claims 19,21,22,24,31,32 are withdrawn.

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

3,133,717	Hartel	05-1961
1,743,074	Roth	01-1930
3,430,896	Labrecque	05-1967

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 15 – 18, 20, 23, 27 - 29, 33, 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartel (US 3,133,717) in view of Roth (US 1,743,074).**

1. Regarding claims 15, 16, 17, 18, 23, 28, 29, 35 Hartel discloses an aircraft comprising movable landing gear between and stowed and retracted position (figures 1 - 3) wherein the landing gear comprises a wheel having a tire and a rim (figures 1 – 3) where a junction exists between the tire and rim forming a gap (figures 1 – 3).

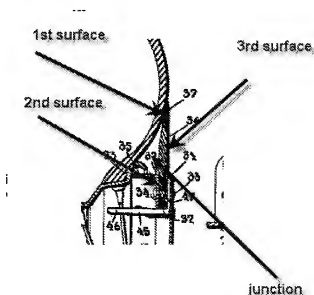
Hartel fails to teach of a separate part that is provided between the junction to close the gap wherein a first surface abuts the tire, a second surface in contact with the rim and a third surface that extends across the junction; wherein on at least one side of the wheel during use of the aircraft when airborne and the landing gear is in a position ready for landing of the aircraft, the surface of the wheel/tire assembly presented to the airflow within the part bounded by the widest part of the tire is "substantially" flat in shape.

Roth discloses it is known to have a separate part on both sides of the wheel with a first surface abutting the tire (see figure below), the second surface in contact with the rim (17,23,35,32,34) and third surface extends between the first and second surface (see figure below) so as to provide a surface to smooth and close the gap (see fig below) wherein the separate part is flexible and made of rubber (col 2, line 21) thus deformable and capable to be moved manually; wherein the surface of the wheel/tire assembly presented to the airflow within the part bounded by the widest part of the tire is "substantially" flat in shape (fig below).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Hartel to comprise of a separate part that closes the gap between the junction on both sides of the wheel between the tire and rim and be substantially smooth section of the widest part as disclosed by Roth in order to reduce air resistance by streamlining the flow as taught by Roth (lines 5 – 11).

It should be appreciated that the applicant's functional language in the claims does not serve to impart patentability. While features of an apparatus may be recited

either structurally or functional, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. Apparatus claims cover what a device is, not what a device does. A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior apparatus teaches all the structural limitation of the claims.



Regarding claim 20, Hartel, as modified, discloses the apparatus as in claim 15 wherein at least a portion (the separate part is made of rubber) is so configured that once the force between the wheels and the ground exceeds a first given threshold force, it moves out of a gap that said separate part bridges when the aircraft is airborne, and once the force between the wheels and the ground drops to or below a second given threshold force, it moves back to the position in which it bridges the gap.

Regarding claim 27, Hartel, as modified, discloses the apparatus as in claim 15, wherein the landing gear are suitable for jet engine aircraft with undercarriage cargo bay storage, but is silent to type/size suitable for 50 or more passengers. However, the Examiner takes official notice, it is old and well known in the art that commercial airliners are comprised of retractable landing gear with undercarriage bay storage wherein some jet engine airliners carry 50 or more passengers. Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to implement this landing gear system of Hartel, as modified into an airliner that carries 50 or more passengers because it is old and well known to utilize retractable landing gear on commercial airlines to reduce air drag during takeoff and landing.

Regarding claim 33, Hartel, as modified, discloses the apparatus as in claim 15 wherein the first surface follows the shape of the tire (see figure above).

Regarding claim 34, Hartel, as modified, discloses the apparatus as in claim 15 wherein the first surface follows the shape of the rim (see figure above).

**Claims 15 – 18, 20, 23, 27 - 29, 33, 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Labrecque (US 3.430.896) in view of Roth (US 1,743,074).**

2. Regarding claims 15, 16, 17, 18, 23, 28, 29, 35 Labrecque discloses an aircraft comprising movable landing gear between and stowed and retracted position (figures 1-4) wherein the landing gear comprises a wheel having a tire and a rim (figures 1-4) where a junction exists between the tire and rim forming a gap (figures 1-4).

Labrezque fails to teach of a separate part that is provided between the junction to close the gap wherein a first surface abuts the tire, a second surface in contact with the wheel (rim) and a third surface that extends across the junction; wherein on at least one side of the wheel during use of the aircraft when airborne and the landing gear is in a position ready for landing of the aircraft, the surface of the wheel/tire assembly presented to the airflow within the part bounded by the widest part of the tire is substantially flat.

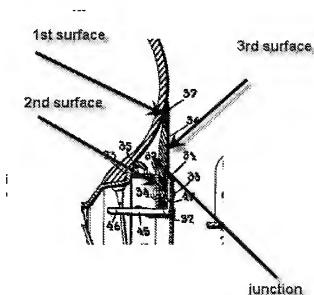
Roth discloses it is known to have a separate part on both sides of the wheel with a first surface abuts the tire (see figure below), the second surface in contact with the rim (17,23,35,32,34) and third surface extends between the first and second surface (see figure below) so as to provide a surface to smooth and close the gap (see fig below) wherein the separate part is flexible and made of rubber (col 2, line 21) thus deformable and capable to be moved manually; wherein the surface of the wheel/tire assembly presented to the airflow within the part bounded by the widest part of the tire is "substantially" (fig below).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Labrezque to comprise of a separate part that closes the gap between the junction on both sides of the wheel between the tire and rim and be substantially smooth section of the widest part as disclosed by Roth in order to reduce air resistance by streamlining the flow as taught by Roth (lines 5 – 11).

It should be appreciated that the applicant's functional language in the claims does not serve to impart patentability. While features of an apparatus may be recited



either structurally or functional, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. Apparatus claims cover what a device is, not what a device does. A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior apparatus teaches all the structural limitation of the claims.



Regarding claim 20, Labrezque, as modified, discloses the apparatus as in claim 15 wherein at least a portion (the separate part is made of rubber) is so configured that once the force between the wheels and the ground exceeds a first given threshold force, it moves out of a gap that said separate part bridges when the aircraft is airborne, and once the force between the wheels and the ground drops to or below a second given threshold force, it moves back to the position in which it bridges the gap.

Regarding claim 27, Labrezque, as modified, discloses the apparatus as in claim 15, wherein the landing gear are suitable for jet engine aircraft with undercarriage cargo bay storage, but is silent to type/size suitable for 50 or more passengers. However, the Examiner takes official notice, it is old and well known in the art that commercial airliners are comprised of retractable landing gear with undercarriage bay storage wherein some jet engine airliners carry 50 or more passengers. Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to implement this landing gear system of Labrezque, as modified into an airliner that carries 50 or more passengers because it is old and well known to utilize retractable landing gear on commercial airlines to reduce air drag during takeoff and landing.

Regarding claim 33, Labrezque, as modified, discloses the apparatus as in claim 15 wherein the first surface follows the shape of the tire (see figure above).

Regarding claim 34, Labrezque, as modified, discloses the apparatus as in claim 15 wherein the first surface follows the shape of the rim (see figure above).

#### **(10) Response to Argument**

**Rejection of claims 15 – 18, 20, 23, 27 - 29, 33, 34, 35 under 35 U.S.C. 103(a) as being unpatentable over Hartel (US 3,133,717) in view of Roth (US 1,743,074).**

**Re claims 15 and 28**, Appellant argues that the Examiner fails to meet the limitation that the "second surface" of the separate part of Roth is not in contact with the rim. The Examiner respectfully disagrees. Given the broadest reasonable interpretation of the claim language to "the rim" in light of the specification, the Examiner contends that the generic recitation of "rim" can be broadly construed as set forth in the rejection

above, because as seen in Appellant's specification (clearly shown in figures 1a, 1b, of the appellant's spec, that the "rim" is at least 4 pieces on one side like a backwards lowercase "h"), Appellants "rim" of the tire/wheel assembly clearly has multiple parts/elements that make up the "whole" of the rim. Given this construction, the Examiner asserts, it is completely reasonable to interpret elements (17,23,35,32,34) of Roth to make up "the rim" as also it is noted the claim is constructed with "comprising" phraseology, thus, is not limited to a narrow interpretation of just a single element rim and the claim fails to define anything more than "a rim".

Further, alternatively, and also supported and commensurate in scope with Appellant's specification which states, "...for example the hub cap may have an outer portion in the form of a flexible sealing member..." (pg. 7, lines 20 – 23, figs 3a, 3b, and 4 of appellant's spec), which appear to also be encompassed by the exceedingly broad claim language. Thus, in other words, "a part" of the hub cap of Appellant's alternative embodiments of the invention could also be the "sealing member" (i.e. the separate part as claimed). Again, given this construction, the Examiner contends it is completely reasonable to interpret elements (17,23,35,32,34) of Roth to make up "the rim".

Given these two issues, the Examiner contends that the claim scope, in light of the specification, that the "second surface" of Roth is clearly in contact with the "rim".

It should also be pointed out, in a third alternative, it is of the Examiner's opinion, that the combination with the primary reference of Hartel in view of Roth, under a much narrower interpretation to what constitutes a "rim" that, it would have lead one of ordinary skill to the obvious conclusion that the secondary piece of prior art to Roth's

"separate piece" with a "second surface" when combined, would clearly be obvious that the second surface would touch a portion of the rim.

Given these multiple issues set forth above, the board is expressly urged to consider the broad nature of the claim language and the blatant obviousness as set forth above.

In response to Appellant's argument that the Examiner fails to meet the limitation that "on at least one side of the wheel at the widest part the tire is 'substantially' flat", the Examiner respectfully disagrees. As the "wheel/tire" clause is written as an alternative because the "forward slash" in English text can be treated as an "OR" clause, wherein the tire assembly at the widest part would be the widest part of the tire where the separate part interfaces thus meeting the scope of the claim.

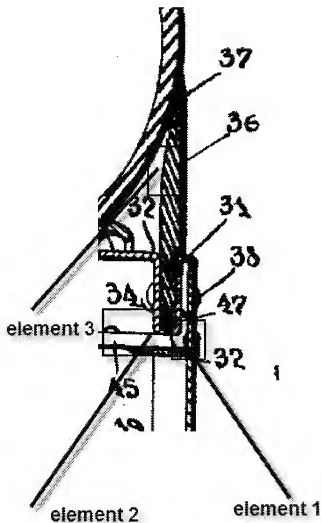
In response to applicant's argument that Roth could not be combined with either Labrezque or Hartel, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the separate part fills the gap) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are

not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that there is no specific suggestion, teaching, or motivation in references to combine prior art, it is noted, in light of the recent Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, (550 U.S.-, 82 USPQ2d 1385 (2007), *KSR* forecloses the argument that a **specific** teaching, suggestion, or motivation is required to support a finding of obviousness. (see also the recent Board decision *Ex parte Smith*, - -USPQ2d- -, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007) (citing *KSR*, USPQ2d at 1396) (available at <http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071925.pdf>).

**Re claim 18.** Appellant argues that the annular lip "36" of Roth is not formed of a multiplicity of flexible elements, the Examiner respectfully disagrees. The entire rubber annular lip is flexible. And the claim scope is broad enough to encompass different pieces of the annular lip, as being "flexible elements". As shown below, an example of this, the Examiner contends that at least each junction (corner) where the different surfaces meet can be broadly construed to be a flexible element thereby meeting the scope of the claim.



Claims 16, 17, 20, 23, 27, 29, 33, 34, 35 are held as being rejected as set forth above.

Rejection of claims 15 – 18, 20, 23, 27 - 29, 33, 34, 35 under 35 U.S.C. 103(a) as being unpatentable over Labrecque (US 3.430.896) in view of Roth (US 1,743,074).

**Re claims 15 and 28,** Appellant argues that the Examiner fails to meet the limitation that the "second surface" of the separate part of Roth is not in contact with the rim. The Examiner respectfully disagrees. Given the broadest reasonable interpretation of the claim language to "the rim" in light of the specification, the Examiner contends that the generic recitation of "rim" can be broadly construed as set forth in the rejection above, because as seen in Appellant's specification (clearly shown in figures 1a, 1b, of the appellant's spec, that the "rim" is at least 4 pieces on one side like a backwards lowercase "h"), Appellants "rim" of the tire/wheel assembly clearly has multiple parts/elements that make up the "whole" of the rim. Given this construction, the Examiner asserts, it is completely reasonable to interpret elements (17,23,35,32,34) of Roth to make up "the rim" as also it is noted the claim is constructed with "comprising" phraseology, thus, is not limited to a narrow interpretation of just a single element rim and the claim fails to define anything more than "a rim".

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Given these two issues, the Examiner contends that the claim scope, in light of the specification, that the "second surface" of Roth is clearly in contact with the "rim".

It should also be pointed out, in a third alternative, it is of the Examiner's opinion, that the combination with the primary reference of Labrecque in view of Roth, under a much narrower interpretation to what constitutes a "rim" that, it would have lead one of ordinary skill to the obvious conclusion that the secondary piece of prior art to Roth's "separate piece" with a "second surface" when combined, would clearly be obvious that the second surface would touch a portion of the rim.

Given these multiple issues set forth above, the board is expressly urged to consider the broad nature of the claim language and the blatant obviousness as set forth above.

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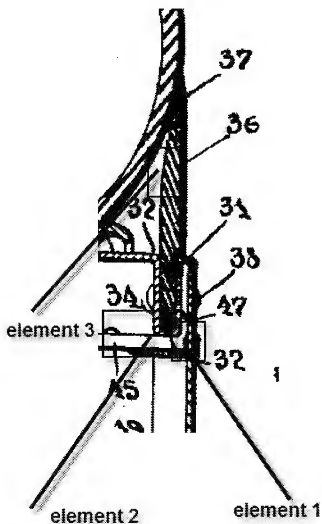
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**Re claim 18.** Appellant argues that the annular lip "36" of Roth is not formed of a multiplicity of flexible elements, the Examiner respectfully disagrees. The entire rubber annular lip is flexible. And the claim scope is broad enough to encompass different pieces of the annular lip, as being "flexible elements". As shown below, an example of this, the Examiner contends that at least each junction (corner) where the different

surfaces meet can be broadly construed to be a flexible element thereby meeting the scope of the claim.



Claims 16, 17, 20, 23, 27, 29, 33, 34, 35 are held as being rejected as set forth above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/JOSHUA J MICHENER/

Primary Examiner, Art Unit 3644

Conferees:

Kimberly Smith

/Kimberly S Smith/

Primary Examiner, Art Unit 3644

Heather Shackelford /hcs/